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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,668	09/28/2001	Bernd Eckardt	32325-174523	5120

7590 01/02/2004

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PO Box 34385  
Washington, DC 20043-9998

EXAMINER
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LANGEL, WAYNE A

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/1937668

Applicant(s)

Eckard et al

Examiner

Langel

Group Art Unit

1754

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- ☐ Responsive to communication(s) filed on \_\_\_\_\_
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-15 is/are pending in the application.
- ☐ Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-15 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement

## Application Papers

- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some\* ☐ None of the:
  - ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 4
- ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other \_\_\_\_\_

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The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 9-15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Daish. Daish discloses a catalytic device for catalyzing the recombination of gaseous hydrogen and oxygen to give water, the device comprising a substrate in the form of at least one metal member and carrying a thermally sprayed low surface area ceramic coating which carries a high surface area ceramic coating, which latter coating carries catalytically active material for the recombination, the device having an outer, hydrophobic gas permeable coating resistant to nuclear radiation for preventing water from contacting the catalytically active material, the device being located in a container so that the hydrogen and oxygen are brought into contact with the device by passive gas transfer and oriented such as to enable water to drain therefrom. (See column 1, line 4 - column 2, line 8; and column 6, lines 11-26.) The hydrophobic gas permeable coating for preventing water from contacting the

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catalytically active material, as disclosed in the device of Daish, would constitute a "retarding layer for inhibiting diffusion of the reaction gases flowing in and/or out", as recited in applicant's claims. The difference between the process and device disclosed by Daish, and that recited in applicant's claims 1-6 and 9-15, is that applicant's claims require at least one region of the catalyst body to which the reaction gases have direct access. It would be prima facie obvious to modify the device and method of Daish by eliminating the hydrophobic gas permeable coating for at least part of the catalyst body, since Daish teaches at column 4, lines 7-13 that the purpose of the coating is to allow access of the reactant gases - hydrogen and oxygen - to the catalyst while at the same time preventing wetting of the catalyst. It would be prima facie obvious to eliminate the hydrophobic layer as to at least part of the catalyst device and thereby lose the function of allowing access of the reactant gases to the catalyst while at the same time preventing wetting of the catalyst. It is well-settled that it is obvious to eliminate an element in a device with loss of the concomitant function of such element in the device.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daish as applied to claim 1 above, and further in view of Heck et al. '646. It would be further obvious from Heck et al. '646 to provide the device of Daish with several

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identical catalyst systems arranged parallel to each other, since Heck et al. '646 discloses in the Abstract a device for the recombination of hydrogen and oxygen which includes catalyst bodies comprising flat bodies formed of multi-layered sheet metal in a multi-channel configuration forming a plurality of mutually parallel gas flow channels. It would be obvious that the device of Heck et al. '646 could be adapted to the device and method of Daish, since the devices of both Daish and Heck et al. '646 are directed to the recombination of hydrogen and oxygen.

Claims 4, 5 and 8 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 4 and 5, the recitation of "in particular" renders the scope of the claims vague and indefinite. In claim 8, the recitation of "preferably" renders the scope of the claim vague and indefinite.

Claim 15 is rejected under 35 U.S.C. § 112 paragraph 5 in constituting a multiple dependent claim which fails to depend from the parent claims in the alternative only. The word --any-- should be inserted before the word "one" in line 1 of claim 15, to avoid this rejection.

The other references are made of record for disclosing various methods and apparatus for recombining hydrogen and oxygen.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne A. Langel whose telephone number is (571) 272-1353. The examiner can normally be reached on Monday through Friday from 8 A.M. to 3:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on (703) 308-3837. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2351.

WAL:cdc

December 23, 2003

*Wayne A. Langel*  
WAYNE A. LANGEL  
PRIMARY EXAMINER